The Examiner has required restriction under 35 U.S.C. §121 to one of the following inventions:

I. Claims 1, 3, 5, 7, 9, 11, 13 and 15, drawn to a method for coating and binding a medicinal composition, classified in class 427, subclass 398.5.

II. Claims 17-24, drawn to a medicinal composition, classified in class 424, subclass 482.

Applicants herewith affirm their oral election made on August 27, 1997 of the claims of Group II, i.e., Claims 17-24 and the acrylic plastic A of Claim 7 as species thereof.

However, the restriction requirement is traversed and its withdrawal is requested. Where, as here, the claims of the Group II require the particulars of the claims of Group I, restriction clearly is improper. Note MPEP §806.05(c). No two-way distinctness necessary for a proper restriction requirement under such a circumstance has been shown by the Examiner to be present. Accordingly, it is requested that the restriction requirement be withdrawn and an action be given on all of the claims.

Further, it is additionally requested that should the elected claims become allowable, rejoinder of the non-elected method claims is requested, consistent with MPEP §821.04.

Claims 1, 3, 5, 7, 9, 11, 13 and 15 stand withdrawn from consideration as not reading on the elected invention.

Claims 17-24 are the elected claims. They stand rejected under 35 U.S.C. §103(a) as being unpatentable over German 4,138,513 (Canada 2,082,573 provided by the Examiner being its English language equivalent), Moest, Europe 204596 and Japan 57-169427, as well as under the first paragraph of 35 U.S.C. §112.

The interview kindly granted by the Examiner, Mr. Sellers, on September 24, 1997, is hereby acknowledged with appreciation. It served to materially advance the prosecution of the case by clarifying the issues. Specifically, for reasons as urged at said interview set forth and further elaborated upon below, the Examiner stated that he will reconsider his position.

The invention relates to an oral or dermal medicinal composition containing a pharmaceutical active substance and a thermoplastic coating and binding agent prepared by a method of coating and binding an oral or dermal medicinal composition, comprising applying a thermoplastic coating and binding agent in a hot-melt liquid state to said oral or dermal medicinal composition, followed by cooling to solidify the thermoplastic coating and binding agent, wherein said thermoplastic coating and binding agent consists essentially of a non-homogenous mixture of, based on 100% by weight of A and B:

A) 5-95% of a thermoplastic acrylic plastic with a melting temperature above room temperature and below 200°C, a glass transition temperature below 120°C, and a melt viscosity pf 1,000 to 1,000,000 Pa-sec at the melting temperature; and

B) 95-5% of a flow improver, which, at room temperature, is not compatible with the thermoplastic acrylic plastic, has a melting temperature above room temperature but below 200°C, a molecular weight under 20,000 d, and a melt viscosity below 100 Pa·sec at the melting temperature of the acrylic plastic.

It is the Examiner's position that it assertedly would be obvious to prepare the medicinal compositions of Moest and Japan by the melt extrusion procedure of the German and European patents.

It is submitted that this is not a viable position. Specifically, in both Moest and the Japanese patent their compositions are applied to a medicinal compound, not by hot-melt

extrusion, but by applying an aqueous dispersion of the composition to the medicinal material. The Examiner recognizes this to be the case and thus relies on the German and European patents to assertedly cure this basic deficiency of the primary reference.

Essential to the invention of both Moest and Japan is that their compositions be applied to a medicinal material by an aqueous dispersion of their compositions. How then can it reasonably be said that hot-melt extrusion of their compositions would be obvious, such going against their express teachings of the necessity of using an aqueous dispersion thereof? Manifestly, hot-melt extrusion is contraindicated by these references.

The German reference is discussed at page 3 of the specification. It discloses (Abstract of the equivalent Canadian patent provided by the Examiner):

> A solid depot drug form product by melt extrusion at from 50 to 200°C and continuous shaping of a mixture of from 0.1 to 70% by weight, based on the finished depot form, of a pharmaceutical active ingredient with a polymer melt of the following composition:
>
> a) at least 6% by weight, based on the complete depot form, of at least one water-insoluble poly(meth)acrylate with a glass transition temperature Tg in the range of from -60 to 180°C,
>
> b) a water-soluble hydroxyalkylcellulose or hydroxy-alkylmethylcellulose with 2 or 3 carbons in the hydroxyalkyl, or an N-vinylpyrrolidone polymer with from 0 to 50% by weight of vinyl acetate or a mixture of the two
>
> in the ratio a):b) = 5:95 to 95:5, and
>
> c) 0-30% by weight, based on the finished depot form, of one or more conventional pharmaceutical auxiliaries,

In other words, it discloses a composition of a homogenous mixture of a) and b), optionally also containing component c). Such a composition clearly is distinctly different from the composition used in the preparation of the claimed medicinal composition consisting essentially of a non-homogenous mixture of A and B.

Similarly, in the European patent two lipid excipients, one of which can dissolve or gel component A while the other acts as a lubricant, or, alternatively, a single lipid excipient having both of these functions is used in the extrusion of a medicinal material. Here again the reference teaches away from the claimed invention in requiring that the composition be a homogenous mixture, i.e., containing a lipid excipient which can dissolve the gel component A. Such is contrary to the express requirement of the present claims wherein the mixture of A and B is specifically defined as consisting essentially of a non-homogenous mixture of A and B.

Certainly, it would not be obvious from the German and European patents to use a melt-extrusion process for the compositions of Moest and Japan when

1. Moest and Japan are limited to and require use of an aqueous dispersion of its components, and

2. The compositions of the German and European patents are significantly and materially different from those of Moest and Japan not providing any motivation or incentive, nor reasonable expectation, that the use of a hot-melt process in Moest and Japan would provide for the advantages of Applicants' discovery so demonstrated in the specification.

As disclosed at page 3-4 of the specification:

> According to German Patent Application No. A 4,138,513, mixtures of a pharmaceutical active substance and a thermoplastic binder are extruded from the melt and processes to medicinal forms. Mixtures of EUDRAGIT RL or RL with vinylpyrrolidone-vinyl acetate copolymers and hydroxypropylcellulose are used as thermoplastic binders. The same release characteristics cannot be attained in this way as with the corresponding acrylic plastics or their mixtures alone.
>
> According to the European Patent Application No. A 204,596, active-substance-containing microparticles of a mixture which contain as a binder a polymer in a mixture with one or more excipients are extruded. The excipients are selected in such a way that, individually or jointly, they exert a dissolving or gelling effect and a lubricating effect on the polymer. During the

processing by means of perforated rolls, the mixture is heated, so that one of the excipients melts in part and thereby evolves a dissolving or gelling effect. The mixture, which is plasticized in this way, is pressed through the openings of the perforated rolls and thereby extruded to microparticles. As an example, the processing of powdery EUDRAGIT RS with a glycerol palmitostearate is described.

The processing of genuine melt of this mixture would not lead to a usable medicinal form. A homogeneous mixture would form from the polymer and the excipient; it would not segregate once again upon cooling because of the presupposed dissolving or gelling effect. The consequence of the plasticizing effect of the excipient is that the composition solidified from the melt remains soft and sticky on its surface, so that it would not be usable as a medicinal form surface.

The defined incompatibility, i.e., non-homogenous mixture, has the effect that in the solidified melt, components A and B are present as separate phases, and flow improver B is not present dissolved in polymer phase A as a plasticizer. Such provides for an improved flowing capacity of the melt, without a plasticizing effect which would lead to sticky surfaces. Such clearly is not obvious from the references.

Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §103 is requested.

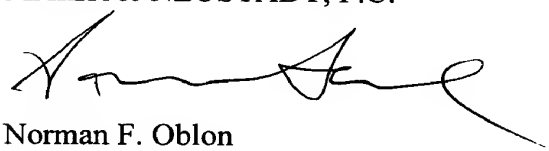
With regard to the rejection of the claims under the first paragraph of 35 U.S.C. §112, the Examiner's attention was directed at said interview also to page 17, lines 22 to 25 of the specification, taken in conjunction with the other teachings referred to by him, as being basis for the amendment to the claims. The Examiner at said interview appeared to agree that the claims, as amended, are supported by the specification as would be understood by one skilled in this art. Note that page 17 teaches adding to the mixture a pharmaceutical active substance already during the production of the mixture while hot. This is then followed by cooling.

Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §112, first paragraph, is requested.

It is submitted that the claims define a patentable invention. Their allowance is solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Norman F. Oblon
Attorney of Record
Registration No. 24,618

Samuel H. Blech
Registration No. 32,082

Crystal Square Five - Fourth Floor
1755 Jefferson Davis Highway
Arlington, VA 22202
(703) 413-3000
SHB/smi

I:\atty\SHB\05830252.am